REMARKS

Claims 1-40 are pending in the above application. Claims 1, 2, 4-7, 9-11, 13-20, 22, 23, 26-32 stand rejected under 35 U.S.C. §103 as being unpatentable over Inoue, U.S. Patent No. 5,447,574 in view of Ishikawa, U.S. Patent No. 5,901,398. According to the Office Action, it would have been obvious to modify the device of Inoue to delay during a time when the vehicle is moving as taught by Ishikawa. Claims 3 and 21 stand rejected under 35 U.S.C. §103 as being unpatentable over Inoue in view of Ishikawa and further in view of Scheiter, Jr., U.S. Patent No. 5,161,557 and Rendemonti, U.S. Patent No. 3,891,149. According to the Office Action, Scheiter discloses rotary nozzles and Rendemonti discloses a piston pump which would have been obvious modifications to the modified combination of Inoue and Ishikawa. Claims 8, 12, and 24 stand rejected under 35 U.S.C. §103 as being unpatentable over Inoue, Ishikawa and Larson, U.S. Patent No. 4,949,423. The Larson reference discloses a photo-electric sensor and an ultrasonic sensor to detect the vehicle which, according to the Office Action, would have been obvious features to include in the modified system of Inoue and Ishikawa. Claim 25 stands rejected under 35 U.S.C. §103 as being unpatentable over Inoue, Ishikawa and Tamburri, U.S. Patent No. 2,981,266. According to the Office Action, the mobile car washing system of Tamburri would have been an obvious modification to the combined Inoue and Ishikawa device. Claims 33-39 stand rejected under 35 U.S.C. §103 as being unpatentable over Jones, U.S. Patent No. 4,739,779 and Scheiter. As stated in the Office Action, the rotary nozzle of Scheiter would have been an obvious modification to the Jones '779 system. Finally, claim 40 stands rejected under 35 U.S.C. §103 as being unpatentable over Jones '779 in view of Scheiter and Tamburri. Again, the mobile structure of Tamburri, according to the Office Action, would have been an obvious modification to the combined teachings of Jones '779 and Scheiter.

Applicants respectfully traverse the rejections under §103 and submit that a *prima facie* case of obviousness has not been established in the Office Action. Each of independent claims 1, 13 and 26 contains explicit language highlighting a substantial

difference between the present invention and the combined teachings of Inoue and Ishikawa. A *prima facie* case of obviousness requires one or more references that were available to the inventor and that teach a suggestion to combine or modify the references, the combination or modification of which is sufficient to have made the claimed invention obvious to one of ordinary skill in the art. Critically, each of the obviousness rejections set forth in the Office Action fails to identify some reason, suggestion, or motivation from the prior art sufficient for a person of ordinary skill to have combined or modified the references as the Office Action proposes. The law is clear that obviousness cannot be established by combining pieces of prior art absent some "teaching, suggestion, or incentive supporting the combination." In Re *Geiger*, 815 F.2d 686, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). In this regard, the Office Action fails to identify a suggestion or motivation to modify the references as proposed and, rather, improperly uses the claimed invention as a template for modifying the prior art. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 221 USPQ 929, 933 (Fed. Cir. 1984) (It is impermissible to use the patent itself as the source of suggestions).

Specifically, with regard to the rejection of claims 1, 2, 4-7, 9-11, 13-20, 22, 23, and 26-32 in view of the combination of Inoue and Ishikawa, Applicants respectfully submit that one of skill in the art would not have combined the teachings of Inoue and Ishikawa to provide a system analogous to the presently claimed invention. This is particularly so in view of the Inoue reference teaching away from moving the vehicle in relation to a stationary spray boom. The Office Action recognizes that the Inoue reference only discloses an automatic car-washing apparatus comprising a portal frame 3 that is movable relative to the vehicle to be washed. At all times, the vehicle is stationary in the Inoue device. Further, the Inoue system clearly does not output a vehicle detection signal in response to vehicle movement under the control of the vehicle operator. Col. 9, lines 30-39 of Inoue makes it clear that the vehicle is stopped, i.e., parked, at a location and a person operates an operator panel to activate the system. Nothing in the Inoue reference device happens "in response to vehicle movement" as required by each of claims 1, 13 and 26 of the present application.

The Inoue reference is primarily concerned with accurately moving an upper nozzle and side nozzles with respect to the vehicle body profile as recognized by a plurality of photo sensors arranged in the vertical direction on the sides of the portal frame. Importantly, "the vehicle body 2 is stopped at a specified washing position with respect to the portal frame 3". ('574 patent at Col. 9, lns. 30-31). The portal frame is then moved forward along rails by a drive mechanism wherein the photo sensors on the front surface of the portal frame detect the vehicle body profile. A vehicle washing sequence then takes place. Thus, the portal frame with the washing mechanisms reciprocates back and forth across a stationary vehicle under the control of a drive mechanism to wash, rinse and dry the vehicle. An "important object" of the Inoue reference is to accurately articulate the nozzles with respect to the vehicle body profile including raising or lowering the nozzles at high speed to eliminate any non-uniformity of washing while the profile of the vehicle body changes.

Accordingly, nothing in the Inoue reference would suggest moving the vehicle while the system is operating. Indeed, to do so, would defeat the ability of the system to accurately locate and spray the vehicle. In addition, Inoue does not disclose or suggest delaying a first time period while the vehicle is moving under operator control underneath the apparatus, as required in claims 1, 13 and 26. The "delay" attributed incorrectly to the Inoue reference by the Office Action occurs while the vehicle profile is being determined during a first pass of the gantry. The entire vehicle, while stationary, is then washed/sprayed during a second pass of the system.

The Ishikawa reference, Applicants submit, is likewise inapplicable to the present invention. Ishikawa discloses a conventional, continuous car-washing machine that is primarily concerned with a conveyor device for transporting the vehicle through the car-washing machine. Importantly, the conveyor device of Ishikawa supports and transports the vehicle "through locked wheels." Col. 1, line 60. In other words, the location of the vehicle vis-à-vis the car-washing frame is carefully controlled by locking the vehicle front wheels and conveying the vehicle through the car-washing apparatus by way of the chain-driven conveyor system. No vehicle movement occurs as a result

of operator control. Accordingly, the Applicants traverse the suggestion in the Office Action that Ishikawa discloses a vehicle detection signal in response to vehicle movement under the control of the vehicle operator, or that Ishikawa discloses that the controller delay a first time period during which time the spray unit is inactive and the vehicle is moving under operator control as required by the present independent claims.

In contrast to Inoue and Ishikawa, the present system determines the vehicle profile in real-time and activates the sprayer to spray only the truck bed during a single pass of the vehicle while moving under the sprayer system by operator control. In other words, the vehicle, under the control of a driver, is moved with respect to the stationary fluid application system. In this regard, the fluid application system of the present invention is particularly useful for applying asphalt release agent to asphalt delivery trucks prior to the trucks receiving a load of asphalt for delivery to a job site. Because the vehicles are driven by an operator under a fixed spray boom, the rate at which they pass through the fluid application system can vary. Hence, the vehicle detection signals in response to vehicle movement occur in real-time as the vehicle is driven under the spraying mechanism. The vehicle detection signal, thus, alerts the fluid application system that a vehicle is present under the spray boom. Because only the truck bed of the vehicle is desired to be sprayed with asphalt release agent, each of claims 1, 13, and 26 require that the system delay for a first time period during which time the spray unit is inactive while the vehicle continues under the spray unit under operator control.

Accordingly, a *prima facie* case of obviousness has not been established because Inoue or Ishikawa, alone or in combination, fail to disclose or suggest each of Applicants' claimed features. Equally, a *prima facie* case of obviousness has not been established because no reason has been shown why one of skill in the art would modify the Inoue reference as the Office Action proposes, particularly in view of Inoue's explicit teaching that the vehicle be stationary such that it can be accurately detected and sprayed by the moving gantry system. Indeed, in the Inoue system, the same

gantry makes a first pass over the vehicle to detect the vehicle, and then makes a second or third pass to wash the vehicle. A moving vehicle, in the device of Inoue, would defeat the ability of the system to make multiple passes over the vehicle. That is, in the system of Inoue, if the vehicle was moving under the gantry to be detected, a different downstream gantry would be required to perform the spraying and washing functions. As such, the Inoue system is completely different than, and inapplicable to, the presently claimed device. Further, given the teachings of Inoue, no person of skill in the art would modify the system as the Office Action proposes.

The fact that one of skill in the art has the capabilities to arrive at the invention is not the test for whether one of skill in the art would have arrived at the invention based on the teachings of the prior art. *Ex Parte Levengood*, 28 U.S.P.Q. 2d 1300-1301, 02 (Bd.Pat.App.Int. 1993)("That which is within the capabilities of one skilled in the art is not synonymous with obviousness."). The focus must remain on what the prior art suggests to one of skill in the art at the time the invention was made. None of the prior art references relied upon in the Office Action disclose or suggest outputting a vehicle detection signal in response to vehicle movement under the control of the vehicle operator, or delaying a first time period while the spray unit is inactive and said vehicle is moving under operator control. Thus, the Office Action presents a classic case of impermissible hindsight reconstruction. Accordingly, the rejection of claims 1, 2, 4-7, 9-11, 13-20, 22, 23, and 26-32, which all rely upon the combination of Inoue and Ishikawa, cannot be supported, and should be withdrawn.

With respect to claim 2, Applicants respectfully traverse the suggestion in the Office Action that Inoue or Ishikawa discloses first and second fluid sources in fluid communication with the pump to communicate a mixture of the fluid sources to the spray unit. To the contrary, the Inoue reference discloses that each fluid source has its own associated pump and that the side nozzles 9a, 9b are connected to each of the pumps such that they can dispense the particular fluid or mixture of fluid contained in the associated fluid reservoir. Ishikawa does not detail the pump and fluid source

arrangement. For this additional reason, claim 2 is not obvious in view of Inoue and Ishikawa.

With regard to claim 4, Applicants submit that claim 4 is allowable because that claim recites a plurality of nozzles at a first end of the boom supported over a detected vehicle which the Inoue reference does not teach. The citation to Column 4, lines 18-19 in Inoue does not support the rejection, as the side nozzles are not over the detected vehicle. Moreover, only one overhead nozzle is disclosed in the Inoue reference, which nozzle is moved laterally as the vehicle passes underneath the traveling frame.

With regard to claim 15, Applicants traverse the suggestion in the Office Action that the features claimed therein are disclosed in the Inoue reference. Again, with respect to the nozzle supported over the detected vehicle, no automatically variable fluid mixture ratio mechanism is disclosed in Inoue. The nozzles of the Inoue system spray detergent, water, or a pre-mixed ratio of water and wax to the vehicle being cleaned. There is no teaching or suggestion in Inoue that the strength of the detergent or the ratio of the water and wax mix are modified in any way in response to the particular type of vehicle detected. Thus, for at least these additional reasons, claim 15 is novel and non-obvious notwithstanding the Inoue and Ishikawa references.

Similarly, with regard to claim 17, multiple fluid conduits are not disclosed or suggested in the Inoue reference for the nozzle located over the vehicle for spraying the variable ratio fluid mixtures of claim 15.

With respect to claim 32, the Office Action again fails to provide any support for the statement that it would have been obvious to operate the device of Inoue at two different flow rates. Focusing only on the teachings of the Inoue and Ishikawa references, there is a complete lack of teaching or suggestion for Applicants' claimed specific vehicle profile signal. As mentioned above, the present invention is particularly well-suited for spraying truck beds with asphalt release agent. The claimed height profile corresponds with most vehicle truck beds. Neither Inoue nor Ishikawa have any concern for detecting specific portions of the vehicle passing through their respective systems. They are car-washing devices directed solely towards efficiently cleaning of

the entire vehicle passing through the system. In view of the complete lack of suggestion for identifying a vertical portion of the vehicle as claimed in the present invention, Applicants respectfully request that the rejection be withdrawn.

Regarding the obviousness rejections of claims 3 and 21, Applicants submit that the combination of Inoue, Ishikawa, Scheiter and Rendemonti would not render obvious the Applicants' claimed invention because the references, either alone or in combination, do not disclose or suggest each and every feature of the claimed fluid application system. As noted above, independent claims 1 and 13, from which claims 3 and 21 depend respectively, recite several features not disclosed or suggested in the Inoue or Ishikawa references. In addition, Applicants submit that one of skill in the art would not be motivated to modify the device of Inoue to include the rotary nozzles of Scheiter because such nozzles provide a less accurate spray pattern. Rotary nozzles are desirable for broad area coverage. Hence, they are beneficial for spraying truck beds, for example, from a stationary overhead boom, as disclosed in the example of the present disclosure. Such nozzles, however, are not necessary or desirable in the system of Inoue because that system is primarily concerned with accurately directing the spray patterns to uniformly wash the vehicle under consideration. Rotary nozzles would be counterproductive to this objective and add unnecessary expense and complexity to the system of Inoue. Thus, for the foregoing reasons, Applicants submit that claims 3 and 21 are non-obvious in view of Inoue, Scheiter and Rendemonti.

With regard to claims 8, 12, and 24, Applicants submit that the claims are non-obvious for at least the same reasons as set forth with respect to claims 1 and 13. Inoue only discloses a plurality of photoelectric detection means arranged vertically in the sides of the portal frame. No distance sensing mechanisms other than the contact sensors 54 are disclosed in the overhead position on the portal frame of Inoue. This is because the Inoue reference is concerned with raising and lowering the spray nozzles with respect to the vehicle profile as seen from the side. In other words, Inoue attempts to prevent contact of the overhead nozzle with any portion of the vehicle. In contrast, the present invention is concerned with detecting and approximately locating the

vehicle truck bed which may be several feet below the highest portion of the vehicle side profile. Hence, the present invention claims an ultrasonic sensor to "see" the drop from the passenger cabin to the floor of the truck box. The photoelectric sensors of Inoue are more accurate for tracking the highest point of the vehicle profile as the portal frame passes over the vehicle. Using ultrasonic sensors in Inoue could result in the system contacting the vehicle if the overhead gantry believes it sees the "top" of the vehicle when, in reality, it is sensing a recessed vehicle feature, i.e., a truck bed. Hence, Applicants traverse the suggestion in the Office Action that one of skill in the art would be motivated to modify the Inoue reference in view of Larson to include ultrasonic sensors or a combination of photoelectric and ultrasonic sensors as claimed in the present invention.

With regard to claim 25, Applicants submit that the obviousness rejection should be withdrawn for at least the same reasons as set forth with respect to claim 13. In addition, Applicants submit that the suggested combination of Inoue, Ishikawa and Tamburri improperly relies upon the claimed invention as a template for combining the prior art. There is absolutely no suggestion in the Inoue reference for making the device mobile. Further, the device of Ishikawa is a long, conventional car-washing tunnel contemplated for installation within a building. It is unlikely that such a car-washing apparatus could even be made to be mobile. Absent any suggestion in Inoue or Ishikawa contemplating a movable structure, the rejection of claim 25 must be withdrawn.

With regard to the rejection of claims 33-39 in view of Jones '779 and Scheiter, Applicants submit that the combination of references would not render obvious the claimed invention because the references, either alone or in combination, do not disclose or suggest each and every feature of the claimed fluid application system. In particular, Applicants traverse the suggestion in the Office Action that Jones '779 discloses or suggests "a sensor adapted to output a vehicle detection signal in response to vehicle movement under the control of the vehicle operator." The Jones system discloses no sensors whatsoever. It is a simple coin-operated spray device. The cited

portion of the Jones '779 reference only discloses that it is activated in response to coins being inserted into the control box. No vehicle is required to even be present in the Jones apparatus. In other words, a person could walk up to the Jones device, insert the correct change, and the device would begin spraying a predetermined amount of fluid regardless of whether anything was present under the spray boom. For at least this reason, no *prima facie* case of obviousness has been established, and the rejection of claims 33-40, which all rely upon the Jones '779 reference should be withdrawn.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-40 are in a proper condition for allowance. A Notice of Allowance indicating the same is therefore earnestly solicited. The Examiner is invited to telephone the Applicants' undersigned attorney at (248) 223-9500 if any unsolved matters remain, or if any clarification is desired with regard to any of the remarks set forth herein.

Respectfully submitted,

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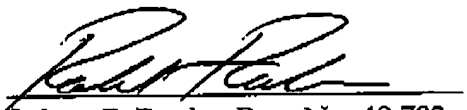

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